The Effect of Teacher Leadership on Teacher Performance

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Abstract: This study was conducted to determine the role of teacher leadership in influencing teacher performance among generation Y teachers of MARA Junior Science College (MRSM), Malaysia. It was a cross sectional study using standardized questionnaires, the Teacher Leadership Self-Assessment, to measure the level of teacher leadership (Katzenmeyer & Moller, 2009) and The Framework for Teaching Evaluation Instrument 2013 Edition (Danielson, 2013) which measured the teacher performance. The respondents for this study were 350 generation Y teachers randomly selected from 54 MARA Junior Science Colleges throughout Malaysia. The data obtained were analyzed using Statistical Package for The Social Science (SPSS) version 23 for Exploratory Factor Analysis (EFA) and T-test. Structural Equation Modeling (SEM) was applied using Analysis of Moments Structures (AMOS) version 21 to analyze the Confirmatory Factor Analysis (CFA) and the causal effect between the variables. The findings showed that there is a significant effect of teacher leadership on teacher performance among generation Y teachers in MRSM. The strong significant effect showed that the values of teacher leadership would influence the teacher performance. Thus, leadership values should be inculcated and practiced among the teachers in order to increase their performance.

Keywords: Teacher leadership, teacher performance, distributive leadership, generation Y

Introduction

Leadership had evolved a lot especially in education. Traditional leadership believed that leadership nestled in the single individuals at the top of an organization (Thorpe, Gold and Lawler, 2011). These leaders were perceived as having the tone setter and the makers of all the key decisions. They were looked up to and being followed by the people in the organization. Repeated researches had shown that the impact these individual leaders had was very moderate (Harris, 2003; Gronn, 2000; Spillane, Halverson & Diamond, 2004). Organizations had experienced rapid change and soon it was discovered that the top-down models of leadership had limitations. Focus had been shifted to collective forms of leadership which was known as distributive leadership (DL) (York-Barr & Duke, 2004). DL was related to the concepts of participation, empowerment, engagement and delegation. Thorpe, Gold and Lawler (2011) defined DL as a variety of configurations which emerged from the exercise of influence that produced interdependent and conjoint action. What made an organization achieved excellent performance were the characteristics, behaviours, styles and outcomes of the work of individual agent in the organization as leaders—'the professional work of everyone'. In the school context, individual agent would be the teacher and so the idea of 'teacher leadership' was manifested. It was DL in action where through collaboration and scholarly ways of working, all teachers could take the lead and provide changes to the educational institution.

Showing his agreement, Bolden (2011) believed that DL was not something 'done' by the top individual 'to' the members of the organization but rather it was a group activity that worked through and within relationships. Individual teacher made the organization. These teachers worked in the organization (educational institution) and they created relationships among the members. Bolden (2011) further enhanced his finding by concluding that the quality of their work was a product of a set of functions which must be carried out by the group and that was perceived as leadership. Gronn (2000) had the idea that once leadership was distributed among the teachers, the school could perform with the absence of leaders. He believed that leadership was an instance of influence and influence was reciprocal. Any teacher leader that did well will influence the other teachers to perform better. Other teachers observing better performance of others would be influenced to function better. To conclude, leadership being distributed among the teachers was a phenomena where leadership qualities were in existence in each individual teacher.

Teachers who practised teacher leadership took on the leadership responsibilities in terms of curriculum, subject specialists, mentoring and others. Thorpe, Gold and Lawler (2011) in their research found that school leaders were important to a school success but the impact was indirect and mediated by others. Teachers work was among the key intermediate factors. The Teacher Leadership Skills Framework (Center for

Strengthening the Teaching Profession, 2009) had made a clear connection between teachers having leadership skills and how this condition gave a remarkable influence on the teacher performance. In conclusion, leadership distributed among teachers (teacher leadership) proved to give impact directly on school outcomes—student outcomes and teacher outcomes (teacher performance).

Teacher performance perception had changed from the 1940s until today where in the 40s, teachers delighted in the high degree of autonomy and trust to do what was best for the students (Jones, Jenkin & Lord, 2006). Now, the performance of teachers was parked under the spotlight. In the Malaysian Government's devotion to increase student performance, the teachers were expected to increase their teaching ability and performance so much so that student outcome was guaranteed (Malaysia Education Ministry, 2013). In order to ensure positive teacher performance, teachers were envisioned to serve as positive role models contributing to the team members and acting as commendable mentors (Jackson Public Schools, 1999). Likewise, The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) (2003) stressed on the teacher performance as being the crucial element in school effectiveness and thus sets standards for teacher performance. Among others, specific aspects of teachers' work such as professional knowledge, professional practice, professional values and professional relationships were the key point indicators of teacher performance.

Performance Standards for Education Officer (Malaysia Ministry of Education, 2016) was designed in the interest of increasing teacher performance. The standards focus on the practised values of teacher professionalism, knowledge and understanding, creativity and innovation, strategic collaboration, communication, and teaching and learning skills. Malaysian teachers who met the standards would be considered as having uplifted teacher performance (Saedah Siraj & Mohammed Sani Ibrahim, 2012). Should the teacher performance be evaluated as being high, it would have a transformative effect on the school and students performance (Guarino, Reckase & Wooldridge, 2012). These values could be considered as the teacher leadership values.

There were in actuality, underperforming teachers regardless of the proved importance of teacher performance (Wragg, Haynes, Wragg & Chamberlin, 1999). Mendez (2013) had identified the existence of underperforming teachers in New Mexico and classified them under the categories of underperformance in the classroom, misconduct, criminal behaviour, tardiness and unjustified absence. Malaysia Public Service Department had issued a circular on procedures to handle the underperforming civil servants—teachers included, in order to affirm the stand that teacher performance was the core business of educators (Government Service Circular (No 4), 1998). Underperforming teachers had become an enormous threat to the school effectiveness (Jones, Jenkin & Lord, 2006).

Malaysian Education Development Blueprint 2013-2025 (PPPM) had shown a difference in the report for teacher performance. The perception of schools regarding the teaching practice of teachers is at 65% efficient. Nonetheless, Quality Assurance and Inspectorate Congregation (2017) had presented a report stating the real fact that the performance of teachers in terms of teaching practice was at 13% efficiency. Higher Education Leadership Academy (AKEPT) had reported their finding on the quality of teaching among teachers being only 12% at a high standard (Malaysia Education Ministry, 2013). In conclusion, teacher performance, based on the data above, was still at a lower level and in need of improvement initiatives. MARA Junior Science Colleges (MRSM) were among the secondary (boarding) schools in Malaysia (53 schools) set up under the *Majlis Amanah Rakyat* Act 1966. To date, there were 3528 teachers teaching in MRSMs and 2941 of them were Generation Y teachers. As far as these generation Y MRSM teachers were concerned, what was their performance level? The deterioration of the student performance in MRSMs for the past four years (Malaysia Certificate of Examination Analysis, MARA Junior Science College, 2016) had posed a question as to what influences the generation Y teacher performance.

Teacher leadership was a facet of educators that had been accentuated as a must have quality in teachers (York-Barr & Duke, 2004) in order to perform well. Those with leadership qualities would demonstrate knowledge, skills and disposition worthy of effective teachers (Organisation for Economic Co-operation and Development, 2009). At a glance, it could be concluded that teachers with traces of leadership skill would be categorized as having a set of dispositions and attitudes such as integrity, high efficacy and content knowledge. They were open-minded and accepted criticism by reflecting on their experiences and learning from it. Lattimer (2007) believed that teacher leaders contribute exceedingly to an educational institution. They were respected for their knowledge and experience. They contributed to the development of professional teacher community and showed understanding of student needs at the same time embracing critical reflection. This meant that teacher leadership happened when there was a process by which individual teacher or rather teachers worked together, to influence their team workers, principals and the community to improve teaching and learning practices with the objective to increase student learning and performance (York-Barr & Duke, 2004). Teacher leadership was seen as the core factor that contributed to school reformation to produce better teacher performance.

However, the constructs of teacher leadership were not well defined and it seemed that few literatures discussed how to develop teacher leadership and whether or not teacher leadership affected teacher performance (York-Barr & Duke, 2004; Berry, Daughtrey &Wieder, 2010; Sugg, 2013). Conley and Muncey (1999) identified some teachers to differentiate their roles as leaders and as team members and thus refused to overwhelm themselves as teacher leaders. If this was the case with the Generation Y MRSM teachers, could teacher leadership affect their performance? Although most literature supported the positive effects of teacher leadership upon schools, no published researches were found on the nature and impact of teacher leadership within the context of MRSM teachers, specifically the Generation Y of MRSM teachers.

This study was implemented with the purpose of explaining how far teacher leadership affect teacher performance among the generation Y teachers of MRSM and in doing so will answer the research questions:

1. What is the level of teacher leadership and teacher performance of Generation Y teachers in MRSM?
2. Does teacher leadership affect teacher performance of Generation Y teachers in MRSM?

Method

Research Design

It could be considered as descriptive-correlational study due to the fact that teacher leadership was currently happening in the world of education and this study was hoped to go beyond mere description of the variables and to identify the relationship that the independent variable had on the dependent variable—correlational research (Salkin, 2003). Data gathered would be used to identify the dimensions of teacher leadership which were applicable to MRSM teachers and their relationship to the dependent variables. The study was constructed using the Cross Sectional Design based on the questionnaires distributed to the respondents (Zainudin Awang, 2012). Due to the fact that the population of MRSM teachers are enormous, this study had adopted the quantitative method of studying samples instead of population.

Population and Sampling

This study was done in MARA Junior Science Colleges (MRSM) throughout Malaysia. There were 53 MRSMs to date and the total number of MRSM teachers was 3528 working in all MRSMs throughout Malaysia. The sampling technique used in this study was the probability sampling specifically the stratified probability sampling (Zainudin Awang, 2012). The appropriate sample size for this study was determined by 95% level of confidence and 5% margin of error in the findings. According to Krejcie and Morgan (1970) sample size table, 346 respondents were needed from the population of 2941 generation Y teachers.

Instruments

The instruments used to measure the variables in this study were standard instruments established by scholars and adopted by many in the western countries. The Teacher Leadership Self-Assessment measured the level of teacher leadership (Katzenmeyer & Moller, 2009). The Framework for Teaching Evaluation Instrument 2013 Edition (Danielson, 2013) measured the teacher performance.

Statistical Analysis

Pilot test was performed to evaluate the validity and reliability of the designed instrument to reduce the cross cultural impact they had. The respondents for the pilot test consisted of 120 teachers from selected MRSMs. In order to screen the data from 'outliers,' normality test procedure was carried out to satisfy the assumption that the data was normally distributed (Zainudin Awang, 2012). The measures of skewness for all the items fell between -1.199 to 0.783. For the purpose of this study, the range of skewness of -1.5 to 1.5 was decided as acceptable measure. Thus, the data collected from 120 respondents for the pilot test were considered normally distributed. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of Sphericity were performed to measure how suited the data was for factor analysis. The KMO values of 0.806 for teacher leadership and 0.898 for teacher performance were meritorious according to Kaiser (1974). The significant value of Bartlett's test close to 0.0 for all the instruments indicated the data at hand was appropriate to proceed with the reduction process. Exploratory factor analysis was then performed reducing the original instruments for teacher leadership from 47 items to 28 items which were sorted into 4 dimensions. While for teacher performance, one item was deleted leaving the instrument with 21 items organized into 3 dimensions. Upon the completion of validity tests (normality testing and exploratory factor analysis), the instrument was tested for its reliability. Computation of the reliability analysis was done according to components of each variable. As for teacher leadership, the α value for component 1 was 0.705, component 2 was 0.839, component 3 was 0.879 and component 4 was 0.914. For the teacher performance variable, 0.944 was the α value for component 1, 0.741 for component 2 and 0.752 for

component 3. In conclusion, based on the validity and reliability tests performed, this instrument had been proven to have a high value of validity and reliability to be used in the real research.

The questionnaire was sent to all MRSMs to be answered by randomly selected respondents. The data obtained was analysed using the Statistical Package for The Social Science (SPSS) version 23. The data analysis was divided into two parts namely first; performing the normality test and exploratory factor analysis (EFA) for the purpose of reviewing and refining the data for all items in the selected instruments. Secondly the confirmatory factor analysis (CFA) was performed for all returned questionnaires by presenting the value of reliability for every scale and sub-scale of the instrument. Data related to the demographic of the respondents and data that were descriptive in nature such as the frequency distribution and percentage were produced using SPSS (Mohd Yusri Ibrahim, 2010). For the second part, SPSS was used to analyse the statistically inferential data to test the hypotheses of this study. T-test was used to observe the mean difference in variables based on the demographic information of the respondents. Structural Equation Modeling (SEM) was applied using the software, Analysis of Moments Structures (AMOS) version 21 to analyse the correlational and causal relationship among the variables in testing the hypotheses (Zainudin Awang, 2012).

Results

Respondent Profile

The descriptive statistical analysis was presented in two aspects namely the descriptive data of the respondents and the descriptive findings of the variables. There were 350 respondents who had returned the questionnaires which were answered accordingly. In terms of gender, the female teachers outnumbered the male teachers. There were 229 female teachers (65.4%) while there were only 121 male teachers (34.6%) as respondents. Looking at the qualification aspect, there was 14.6 % teachers (51) who graduated from university abroad while 85.4 % (299 teachers) were graduates from local universities. As for class of degree, which referred to the cumulative grade point average (CGPA), 83.1% of the teachers (291) were in the group of 3.00 CGPA and above while 16.9% of them (59) achieved CGPA of below 3.00.

Data Analysis

The data collected was tested for its normal distribution and the finding of this research showed the measure of skewness based on the data collected ranges from -1.289 to 1.089. This had proven that the samples had been drawn from a normally distributed population of generation Y in all MRSMs throughout Malaysia. The reliability of items used to measure the constructs of teacher leadership and teacher performance was analysed using the coefficient value of Cronbach Alpha (α) based on the number of real samples (N = 350). The computation of the reliability analysis was done according to components of each variable. For teacher leadership, α value for self-awareness component was 0.77, communication and change component was 0.86, diversity and instructional proficiency was 0.89 and finally, organised and continuous improvement component was 0.93 while for teacher performance variable, the α value for planning and preparation for classroom component was 0.95, instruction component was 0.68 and professional responsibilities component was 0.77.

The descriptive finding for teacher leadership was as stated in table 1. Based on the result, the component with the highest mean score was diversity and instructional proficiency (mean = 4.31) in comparison to the communication and change component (mean = 3.99). The self-awareness component had a mean score of 4.18 while the organized and continuous improvement component had a mean score of 4.11. In conclusion, the finding revealed that the level of teacher leadership among the generation Y teachers of MRSM throughout Malaysia was at a high level having the overall mean score as 4.16.

Table 1
Mean and Standard Deviation for Teacher Leadership

Variable	Component	Mean	Standard Deviation
Teacher Leadership	Self-awareness	4.18	0.49
	Communication & Change	3.99	0.48
	Diversity and Instructional Proficiency	4.31	0.43
	Organized & Continuous Improvement	4.12	0.46

Table 2 showed the descriptive findings for teacher performance variable. Overall mean score for teacher performance was 4.22 whereby the mean score for the first component, planning and preparation for classroom

environment, was 4.33; the mean score for instruction was 4.18 and finally, the mean score for professional responsibilities was 4.13. In conclusion, the generation Y teachers of MRSMs were performing in their respective colleges.

Table 2
Mean and Standard Deviation for Teacher Performance

Variable	Component	Mean	Standard Deviation
Teacher Performance	Planning & preparation for classroom environment	4.33	0.48
	Instruction	4.18	0.51
	Professional responsibilities	4.13	0.55

Significant relationship between the variables was looked into in this study. By reason the instruments of this study involved latent constructs, it was advisable to apply Structural Equation Modelling (SEM) since it could model the inter-relationship among the components simultaneously in a model in contrast to the ordinary regression analysis (Zainudin Awang, 2015). Thus SEM was applied in this study to analyse the significant relationship between teacher leadership and teacher performance.

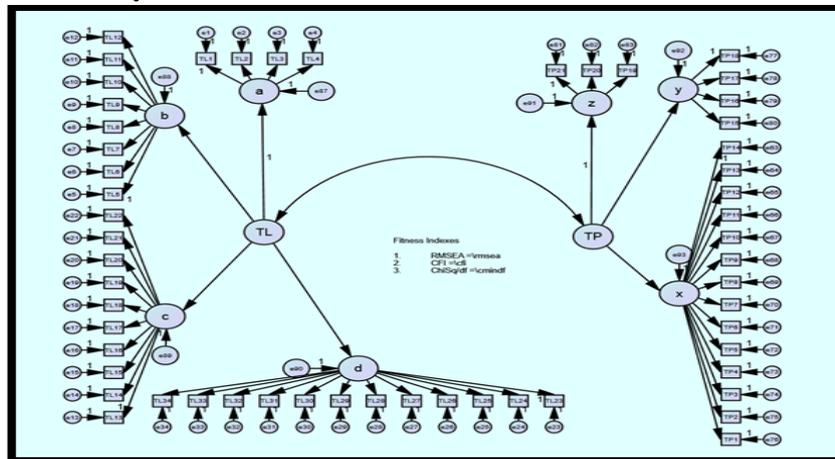**Confirmatory Factor Analysis**

Figure 1: Measurement Model

Figure 1 shows that the measurement model consists of two constructs which are Teacher Leadership (TL) and Teacher Performance (TP).
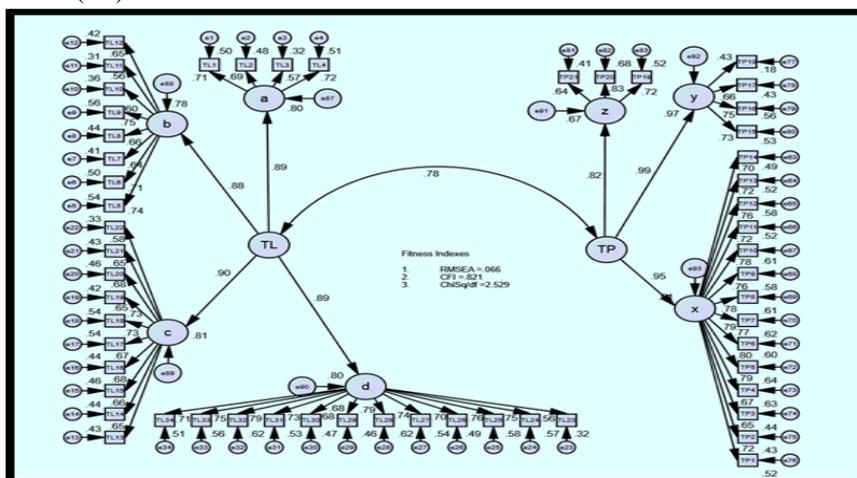

Figure 2: Factor Loading for Each Item

Figure 2 presents the value of factor loading for every item in the constructs and the value of fitness indexes for the measurement model. The items that had factor loading below 0.60 were deleted from the model. The items were deleted one by one starting with the lowest value. After an item was deleted, the researcher re-specified and run the new measurement model. This process was repeated until the fitness indexes for the measurement model achieved the required level. All the values for factor loading were higher than 0.60. High value of Modification Indices (MI) indicated that the items were highly correlated or redundant. Therefore, the researcher solved this problem by setting them to be 'free parameter'.
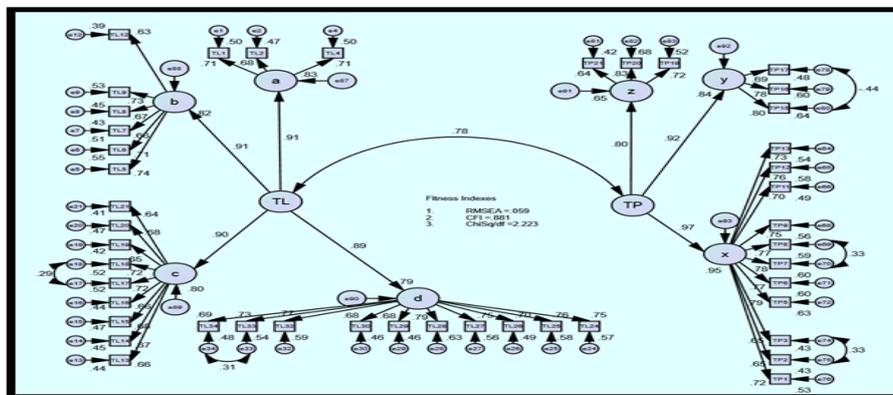

Figure 3: Last Measurement Model

Figure 3 shows that the last measurement model after deleting the items that had lower factor loading below 0.60. The last measurement model showed that the measuring items had acceptable factor loading for the respective latent construct. All the value of fitness indexes was satisfied and achieved the required level. The summary for the assessment of fitness indexes for the last measurement model is presented in Table 3.

Table 3
Summary for the Assessment of Fitness Indexes

Category	Fit statistics	Recommended	Obtain	Comment
Absolute Fit	RMSEA	<0.08	0.059	Achieved
Incremental Fit	CFI	>0.90	0.881	Satisfied
Parsimonious Fit	Chisq/df	<3.0	2.223	Achieved

Based on the Table 1, the value of RMSEA obtained was 0.059. The Absolute Fit Category achieved the required level since the value of RMSEA obtain was less than 0.08 as suggested by Browne & Cudeck (1992). The value of CFI was 0.881. The Incremental Fit Category satisfied the required level since the value of CFI approaching 0.90. The value of Chisq/df was 2.223. The Parsimonious Fit Category achieved the required level since the value of Chisq/df was less than 3.0 as suggested by Marsh and Hocevar (1985) and Zainudin Awang (2015).

Path Analysis Using Structural Equation Modelling (SEM)
Figure 4 shows that the last measurement model is assembled into structural model for further analysis. The structural model could be modified if the fitness indexes were not achieved. Since the fitness indexes were achieved the required level, therefore the structural model were satisfied.
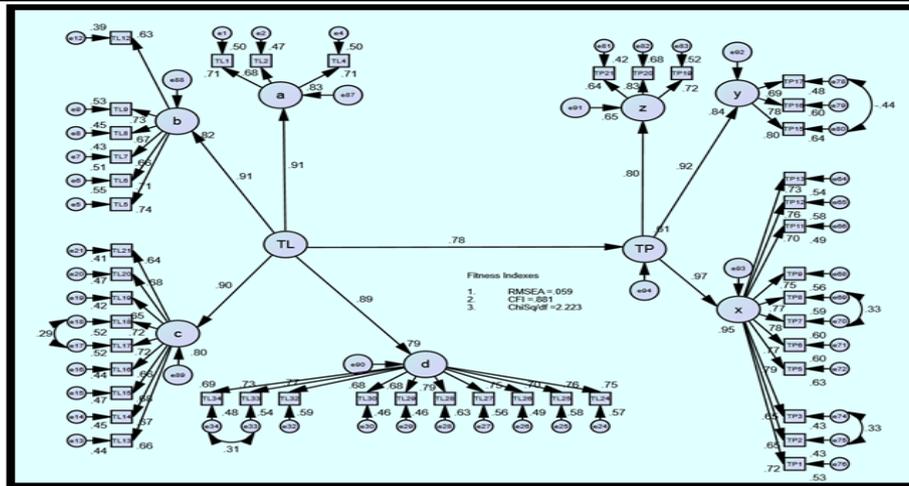
Figure 4: Structural Model

	Path		Estimate	S.E.	C.R.	P
TL	To	TP	0.780	0.071	8.408	0.0001

The path coefficient of Teacher Leadership to Teacher Performance was 0.780. This value indicated that for every one unit increase in teacher leadership, its effect would contribute 0.780 unit increase in Teacher Performance. Since that the p value was less than 0.05 (p=0.0001 < 0.05), therefore there was significant relationship between Teacher Leadership and Teacher Performance.

Discussion

The level of teacher leadership among generation Y teachers of MRSM is high. Teachers show very high leadership values in the aspects of self-awareness; communication and change; diversity and instructional proficiency; and organized and continuous improvement. This means that they are aware of their values, strengths and positive behaviours being teachers who want to perform better. They have high communicational skills which are used to facilitate positive change. When the mean score is high for diversity and instructional proficiency, it means that generation Y teachers of MRSM possess professional knowledge and skills as well as diversity in implementing their core business which is to deliver knowledge and learning experience. They had proven that they are organized and have high commitment for continuous self-improvement.

This finding is in line with the research by Berg, Carver and Mangin (2014) which shows that teacher leadership has become a crucial means for instructional improvement by proving that four domains of Teacher Leader Model Standards consisting of values such as communication, authority and continuous improvement among others, are of the essence for instructional improvement. These values are also the high level of components of teacher leadership among generation Y teachers of MRSM. Lai and Cheung (2015) who found that capacitating teachers with teacher leadership gives the end result of teachers having values of teacher leadership like authority and continuous improvement which goes along with the finding of this study.

The discovery of this study is such, possibly due to the fact that there is awareness among the teachers that the roles and functions of teachers do not only apply in classrooms but also beyond the school boundary. Their influence in making improvements in terms of student performance as well as colleague performance is very notable. All in all, the concept of teacher leadership once again is proven in this study when these gen Y teachers, who may be just ordinary teachers, or they functions as programme coordinators, heads of units, heads of departments or even the deputies of principal, are carrying out their duties in teaching with knowledge and skills and at the same time, having the zest to improve themselves and friends around them. With the leadership values that they have in them, they are performing in schools. In other words, the teacher leadership in these teachers have influenced their performance. Teachers with good performance will lead other teachers to improve their performance which will bring to the end result, increase in student performance.

As for teacher performance, the level of teacher performance among the generation Y teachers of MRSM is also high. With the Exploratory Factor Analysis and Confirmatory Factor Analysis being performed,

three aspects of performance are found to be relevant in this study. The aspects are planning and preparation for classroom environment; instructions; and professional responsibilities.

Based on the Structural Equation Modelling, the finding strongly shows a strong effect of teacher leadership on teacher performance. Statistically, for an increase in the level of teacher leadership among teachers, there will be an increase in the level of teacher performance. The interpretation is teachers with values of teacher leadership will take actions based on these existing values when they perform their duties. It means that they will be aware of the values, philosophy and behaviours required of excellent teachers. They will deliver content and skills to students effectively and make sure that they are focused on teaching and learning. They also have in them the interest to continuously improve themselves and their colleagues in terms of expanding knowledge, communication skills and instructions, and this in the end will result in increase in teacher performance. In a nut shell, teacher leadership should be inculcated in all the teachers so as to ensure that teacher performance could be increased.

The finding can contribute to educational field in the form of improving the values in teachers so that these values will influence their performance. Professional development programmes for teachers could be designed with programmes to inculcate and promote these values.

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